Attorney Docket No. 3093/20

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

BOX PATENT APPLICATION

The Commissioner of Patents and Trademarks
Washington, D.C. 20231

Sir:

Transmitted herewith for filing is a **new utility** patent application of: **Frank CHANG**

Title of Invention: **DUAL-FUNCTIONAL MEDIUM SHREDDING MACHINE STRUCTURE**

Enclosed are:

A specification and 4 claims.

Four (4) sheets of formal drawings (Figs. 1-4).

A Declaration and Power of Attorney

Verified statement to establish **SMALL** Entity Status under 37 CFR § 1.9 and 37 CFR § 1.27.

Change of Address.

The filing fee has been calculated as shown below:

FOR:	NO. FILED	NO. EXTRA	SMALL ENTITY RATE	SMALL ENTITY FEE	LARGE ENTITY RATE	LARGE ENTITY FEE
BASIC FEE				**$355.00**		**$710.00**
TOTAL CLAIMS	**4** -20 =	0	$ 9.		$18.	
INDEP CLAIMS	**1** - 3 =	0	$ 40.		$80.	
___ MULTIPLE DEPENDENT CLAIMS			$135.		$270.	
		TOTAL		**$355.00**		$

X A check in the amount of **$355.00** to cover the government filing fee.

X The Commissioner is hereby authorized to charge any additional fees associated with this communication, including patent application filing fees and processing fees under 37 CFR 1.16 and 37 CFR 1.17 or credit any overpayment to **Deposit Account No. 04-1447**. A duplicate copy of this paper is enclosed.

Date: October 10, 2000

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Serial or Patent No.: Docket No. DED/3093/20

Filed or Issued:

For: DUAL-FUNCTIONAL MEDIUM SHREDDING MACHINE STRUCTURE

VERIFIED STATEMENT (DECLARATION) CLAIMING SMALL ENTITY

STATUS [37 CFR §§1.9(f) and 1.27(b)] - INDEPENDENT INVENTOR

As a below named inventor, I hereby declare that I qualify as an independent inventor as defined in 37 CFR §1.9(c) for purposes of paying reduced fees under Sections 41(a) and 41(b) of Title 35, United States Code, to the Patent and Trademark Office with regard to the invention described in the above-captioned:

[ ] PATENT [X] APPLICATION

I have not assigned, granted, conveyed or licensed and am under no obligation under contract or law to assign, grant, convey or license, any rights in the invention to any person who could not be classified as an independent inventor under 37 CFR §1.9(c) if that person had made the invention, or to any concern which would not qualify as a small business concern under 37 CFR §1.9(d) or a non-profit organization under 37 CFR §1.9(e).

Each person, concern or organization to which I have assigned, granted, conveyed or licensed or am under an obligation under contract or law to assign, grant, convey or license any rights in the invention is listed below:

[X] no such person, concern or organization
[ ] persons, concerns or organizations listed below*

* NOTE: Separate verified statements are required from each named person, concern or organization having rights to the invention averring to their status as small entities (37 CFR §1.27).

FULL NAME

ADDRESS

[ ] INDIVIDUAL [ ] SMALL BUSINESS CONCERN [ ] NON-PROFIT ORGANIZATION

FULL NAME

ADDRESS

[ ] INDIVIDUAL [ ] SMALL BUSINESS CONCERN [ ] NON-PROFIT ORGANIZATION

I acknowledge the duty to file, in this application or patent, notification of my change in status resulting in loss of entitlement to small entity status prior to paying, or at the time of paying, the earliest of the issue fee or any maintenance fee due after the date on which status as a small entity is no longer appropriate [37 CFR §1.28(b)].

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application, any patent issuing thereon, or any patent to which this verified statement is directed.

NAME OF INVENTOR | NAME OF INVENTOR | NAME OF INVENTOR

Frank CHANG

Signature of Inventor | Signature of Inventor | Signature of Inventor

Frank Chang

Date 2 October 2000 | Date | Date

Dual-Functional Medium Shredding Machine Structure

This invention is related to a dual-functional medium shredding machine structure, that not only serves as conventional paper shredding machines, but also allows shredding of the commonly known optical discs containing data or expired credit cards or membership cards through a disc inport or a card inport specifically for such media. This invention mainly implements a pair of shredding roller blades with sharp teeth as shredding means for shredding paper, credit cards, and membership cards. This invention is provided with separate feeding inports, including an inclined inport for feeding paper, and a vertical inport for feeding discs or cards, wherein the inports are each led to the same shredding roller blades such that, regardless of the type of substance being fed by the user, the paper, cards, or the discs can all be shredded by the shredding roller blades. This invention is characterized in that: an inclined inport of a longer channel and a vertical inport of a shorter channel are each provided at the machine body above the roller blades; touch switches are provided at each of the inports such that, while feeding the paper, cards, or discs, the touch switch activates the shredding roller blades to perform shredding task, and drives the switch plate so as to dispense shredded scraps of different substance into different bins.

BACKGROUND OF INVENTION

Conventional paper shredding machines mostly include a roller blade set constructed of two roller blades that shred or cut paper to be fed into strips or scraps as a result of the opposed rotations of the two roller blades such that information as recorded on the paper is destroyed for confidentiality, and the strips or scraps of paper can be easily compressed to reduce processing space. However, optical discs, regardless of CD-ROM discs or CD-R discs, rather than paper have evolved to be one of the major means for storing information. Once information contained in such optical discs has lost its original value and needs to be destroyed, manually breaking the optical discs not only cannot destroy the information as stored, it also may cause personal injuries. An optimum measure is to shred these discs by means of mechanical operations such as those in conventional paper shredding machines.

In the highly economized society as of today, plastic money, such as credit cards, debit cards, ATM cards, or even membership cards issued by enterprises for promotional purposes, and registration cards issued by medical institutions, have made "cards" become an article that can certainly be found in everyone's pocket. When these cards have expired or been replaced with new cards, the most commonly adopted measure is to cut the cards in halves for disposal. However, danger still exists in such a disposing measure because most cards carry the user's signature and the registration cards may also carry personal, medical history, or personal information. It is possible that other individuals with malicious intention may still have access to these halved cards.

SUMMARY OF INVENTION

Though paper shredders are tools commonly used for destroying information, the inventor of this invention believes that the functions of the conventional paper shredders shall be expanded so as to perform shredding task on the same machine using an identical roller blade set regardless of the type of substance of the media to be shredded, given that the machine volume is not increased but the functions are enhanced. In other words, this invention intends to provide a medium shredding machine that allows paper shredding and disc shredding using the same machine.

In view of the above, the inventor made researches and developments in such a valuable subject mater and accomplished the "Dual-Functional Medium Shredding Machine Structure" that provides separate feeding inports, including a paper inport for feeding paper and a disc inport for feeding discs, wherein the inports are each led to the same shredding roller blades such that, and the shredded scraps are dispensed to separate bins through an identical exit by means of an auto-revolving switch plate.

It is thus a primary object of this invention to provide a "dual-functional medium shredding machine structure" specifically designed for shredding or destroying paper printed with data to be destroyed, and optical discs containing data to be destroyed, and expired credit cards. This invention mainly implements a pair of shredding roller blades with sharp teeth as shredding means, and is characterized by providing separate feeding inports,

including a paper inport for feeding paper in an inclined orientation, and a disc inport for feeding discs in a vertical orientation, wherein the inports are each led to the same shredding roller blades such that, regardless of the type of substance being fed by the user, the paper or the discs can both be shredded by the shredding roller blades.

It is another object of this invention to provide a touch switch at each of the inports such that, while feeding the paper or the discs, the touch switch activates the shredding roller blades to perform shredding task, and drives the switch plate so as to dispense shredded scraps of different substance into different bins, whereby the paper and discs can all be destroyed and shredded while the different types of shredded scraps can be dispersed into different bins through the auto-switching function of the switch plate in order to sort the waste and to recycle the resources for environmental sakes.

In order to clearly delineate the objects, characteristics and advantages of the present invention, a few preferred embodiments are specifically explained in detail in accompany with the drawings as follows.

BRIEF DESCRIPTION OF DRAWINGS

Fig. 1 is a cross-sectional view of this invention;

Fig. 2 is a cross-sectional view illustrating the invention under the paper shredding process;

Fig. 3 is a cross-sectional view illustrating the invention under the disc shredding process; and

Fig. 4 is a perspective view illustrating the appearance of this invention.

LIST OF REFERENCE NUMERALS

10	machine body	11	upper lid
12	base	13	power switch
14	paper inport	15	disc inport

16	paper touch switch	17	disc touch switch
18	roller blades	19	scrap exit
20	switch plate	21	paper scrap bin
22	disc scrap bin	23	shaft
24	driving component	25	paper
26	optical disc		

DETAILED DESCRIPTIONS OF EMBODIMENTS

This invention is related to a dual-functional medium shredding machine structure that is substantially dimensioned to the conventional paper shredding machines serving as tools for destroying information. This invention not only serves as a conventional paper-shredding machine, but also allows shredding of the commonly known optical discs or credit cards by implementing an identical set of roller blades and allows sorting and collection of different scraps.

As shown in Figs. 1 and 4, a machine body 10 dimensioned to a conventional paper shredding machine is provided with a power switch 13 on a surface thereof, a pair of roller blades 18 provided therein and driven by a gearbox, and two inports on an upper lid 11 thereof, the inports including a paper inport 14 with an opening of a larger dimension and inclined, curved channel walls, and a disc inport 15 with an opening of a smaller dimension and vertical channel walls. The inports 14, 15 are each led to the shredding roller blades 18 such that, regardless of the type of substance being fed by the user, the paper 25 or the disc 26 can all be shredded by the shredding roller blades 18 through the intermeshing of roller blades 18. The disc inport 15, in principles, is designed to have an opening width that only allows a single piece of optical disc 26 to pass thereby preventing overloading and damaging of the roller blades 18.

The paper inport 14 and the disc inport 15 are, respectively, provided with a paper touch switch 16 and a disc touch switch 17 at appropriate locations of the openings or the channel walls. As shown in Figs. 2 and 3, while feeding a

piece of paper 25, the paper touches and activates the paper touch switch 16 so as to activate the shredding roller blades 18 to perform the intermeshing and shredding task. Likewise, while feeding an optical disc 26, the disc touches and activates the disc touch switch 17 so as to activate the shredding roller blades 18 to perform the intermeshing and shredding task.

In this invention, the machine body 10 is provided with a scrap exit 19 at a base 12 thereof. The scrap exit 19 is provided with a switch plate 20 that revolves about a shaft 23. The switch plate 20 can be driven to the desired direction by means of a conventional driving mechanism (not shown) so as to change the direction that the scraps are dispensed.

The two touch switches 16, 17, while being provided to activate the roller blades 18, can also activate the rotation of the switch plate 20 provided at the scrap exit 19 of the base 12 so as to change the direction of the scrap exit 19 thereby dispensing shredded scraps of different substance into different bins.

As shown in Fig. 2, while feeding one or more pieces of paper 25 into the paper inport 14, the paper 25 touches the paper touch switch 16, which not only activates rotation of the roller blades 18, but also drives rotation of the switch plate 20 so as to dispense the scrap exit 19 towards the paper scrap bin 21.

As shown in Fig. 32, while feeding an optical disc 26 into the disc inport 15, the disc 26 touches the disc touch switch 17, which not only activates rotation of the roller blades 18, but also drives rotation of the switch plate 20 so as to dispense the scrap exit 19 towards the dick scrap bin 22.

Because the "dual-functional medium shredding machine structure" of this invention provides two functions within an identical machine and uses an identical set of roller blades, the invention helps to reduce cost and improved space utilization. Furthermore, this invention uses two touch switches 16, 17 to activate directional change of a switch plate 20 so as to dispense shredded scraps of different substance into different bins. As such, the effects as achieved by this invention are not limited to destroying paper 25 or discs 26 within an identical machine, but also allows waste sorting and resource recycling for environmental sakes.

The "dual-functional medium shredding machine structure" of this invention

uses two touch switches 16, 17 to activate the roller blades 18 and to drive rotational change of the switch plate 2 of the scrap exit 19 so as to dispense shredded scraps of different substance into different bins so as to facilitate waste sorting and resources recycling. However, it is known that people will mostly use this invention as means for shredding paper 25 in daily life or at professional sites; it is thus possible that scraps of discs 26 will only be a small proportion of paper. Though the two touch switches 16, 17 can drive rotational change of the switch plate 20 so as to dispense shredded scraps of different substance into different bins, the capacity of paper pin may be insufficient for most of the time. Furthermore, in consideration of reduction of manufacturing cost and in response to the market demands, the number of touch switches in this invention may be reduced to one, and the switch plate 20 as well as the accompanying driving mechanism may also be eliminated. In other words, a single touch switch is provided at an appropriate location beneath the two inports and between the roller blades, such that regardless of the type of substance being fed by the user, the paper 25 or disc 26 can both touch the touch switch so as to activate the roller blades to perform shredding task while the scraps are dispensed to an identical bin. As such, a simplified embodiment of this invention further reduces the number of components thereby reducing the manufacturing cost and enhancing competitiveness.

From the invention thus described, it will be obvious that this invention as described above is provided for explanation and that the invention may be varied in many ways, where such variations are not to be regarded as a departure from the spirit and scope of the invention, and all such modifications as would be obvious to one skilled in the art are intended for inclusion within the scope of the following claims.

WHAT IS CLAIMED IS:

1. A dual-functional medium shredding machine structure, that allows shredding of paper, optical discs, and credit cards, characterized in comprising:

a machine body being provided with a power switch on a surface thereof and roller blades therein, the roller blades being driven by a gearbox;

two inports on an upper lid thereof, the inports including a paper inport with an opening of a larger dimension and inclined, curved channel walls, and a disc inport with an opening of a smaller dimension and vertical channel walls, the inports being each led to the shredding roller blades such that, regardless of the type of substance being fed by a user, the paper or the disc can all be shredded by the shredding roller blades through the intermeshing of roller blades;

a paper touch switch being provided at an appropriate location between the paper inport and the roller blades; and

a disc touch switch being provided at an appropriate location between the paper inport and the roller blades;

whereby the roller blades are activated by the touch switches when paper, discs, or credit cards are fed and touch the touch switches so as to activate the roller blades to perform intermeshing and shredding task.

2. The dual-functional medium shredding machine structure of Claim 1, wherein the machine body is provided with a scrap exit at a base thereof, the scrap exit being provided with a switch plate that is switchable to a desired direction by means of a driving mechanism, such that while the paper touch switch or the disc touch switch is touched by paper, discs, or credit cards, the touch switch also activates rotation of the switch plate so as to change the direction of the scrap exit thereby dispensing shredded scraps of different substance into different bins.

3. The dual-functional medium shredding machine structure of Claim 1, wherein the disc inport is dimensioned to have an opening width that only

allows a single piece of optical disc or credit card to pass thereby preventing overloading and damaging of the roller blade.

4. The dual-functional medium shredding machine structure of Claim 1, wherein the paper inport and the disc or card inport are both led to the roller blades, a single touch switch is provided between the roller blades such that regardless of the type of substance being fed by a user, the paper, disc, or credit cards can all touch the touch switch so as to activate the roller blades to perform shredding task while the scraps are all dispensed to an identical bin.

Dual-Functional Medium Shredding Machine Structure

ABSTRACT

This invention is related to a dual-functional medium shredding machine structure, specifically designed for shredding or destroying paper printed with data to be destroyed, optical discs containing data to be destroyed, or expired credit cards. This invention mainly implements a pair of shredding roller blades with sharp teeth as shredding means, and is characterized by providing separate feeding inports, including a paper inport for feeding paper in an inclined orientation, and a disc inport for feeding discs in a vertical orientation, wherein the inports are each led to the same shredding roller blades such that, regardless of the type of substance being fed by the user, the paper or the discs can both be shredded by the shredding roller blades, and the shredded scraps are dispensed to separate collectors through an identical exit by means of an auto-revolving switch plate; and a touch switch at each of the inports such that, while feeding the paper or the discs, the touch switch activates the shredding roller blades to perform shredding task, and drives the switch plate so as to dispense shredded scraps of different substance into different collectors.

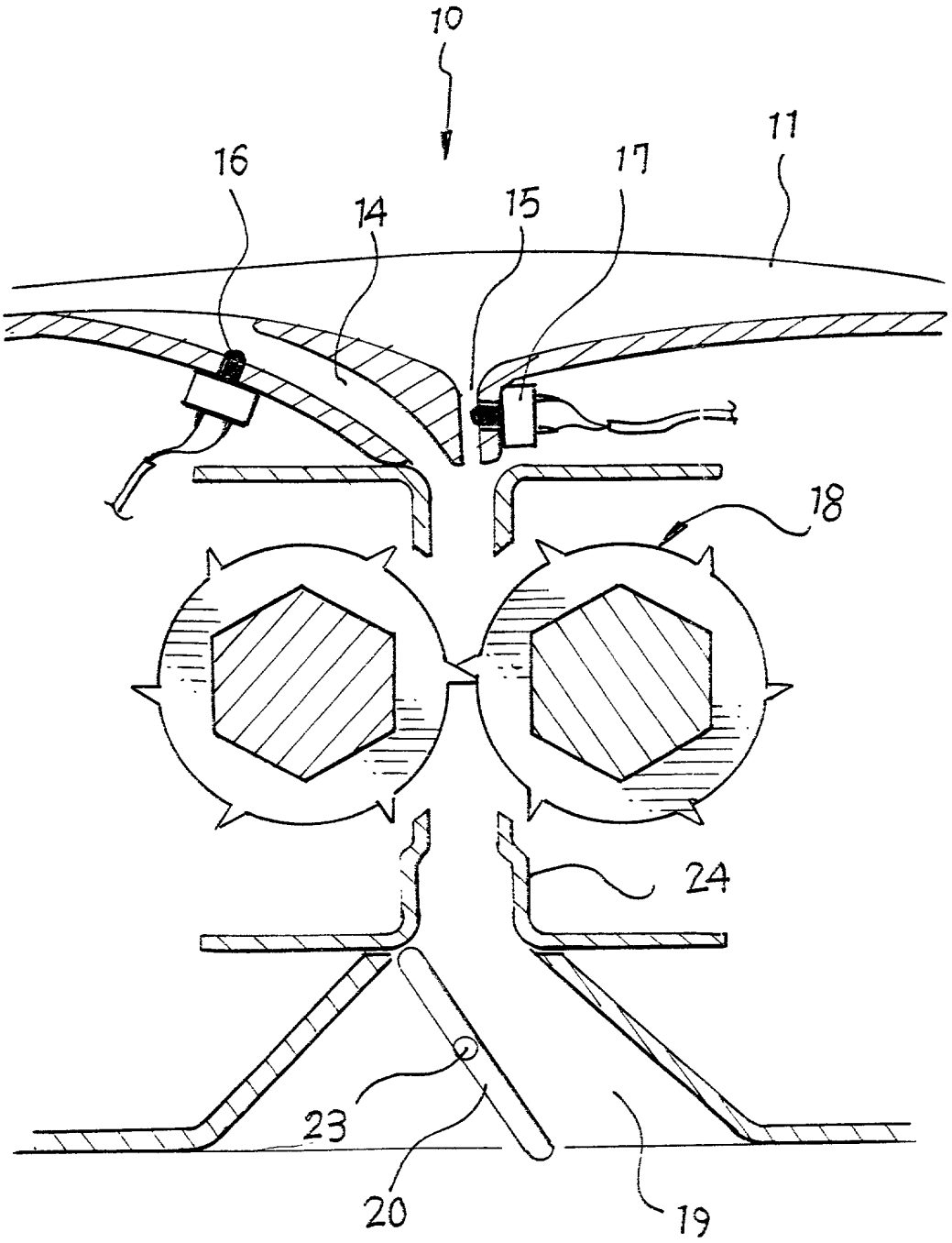

Fig. 1

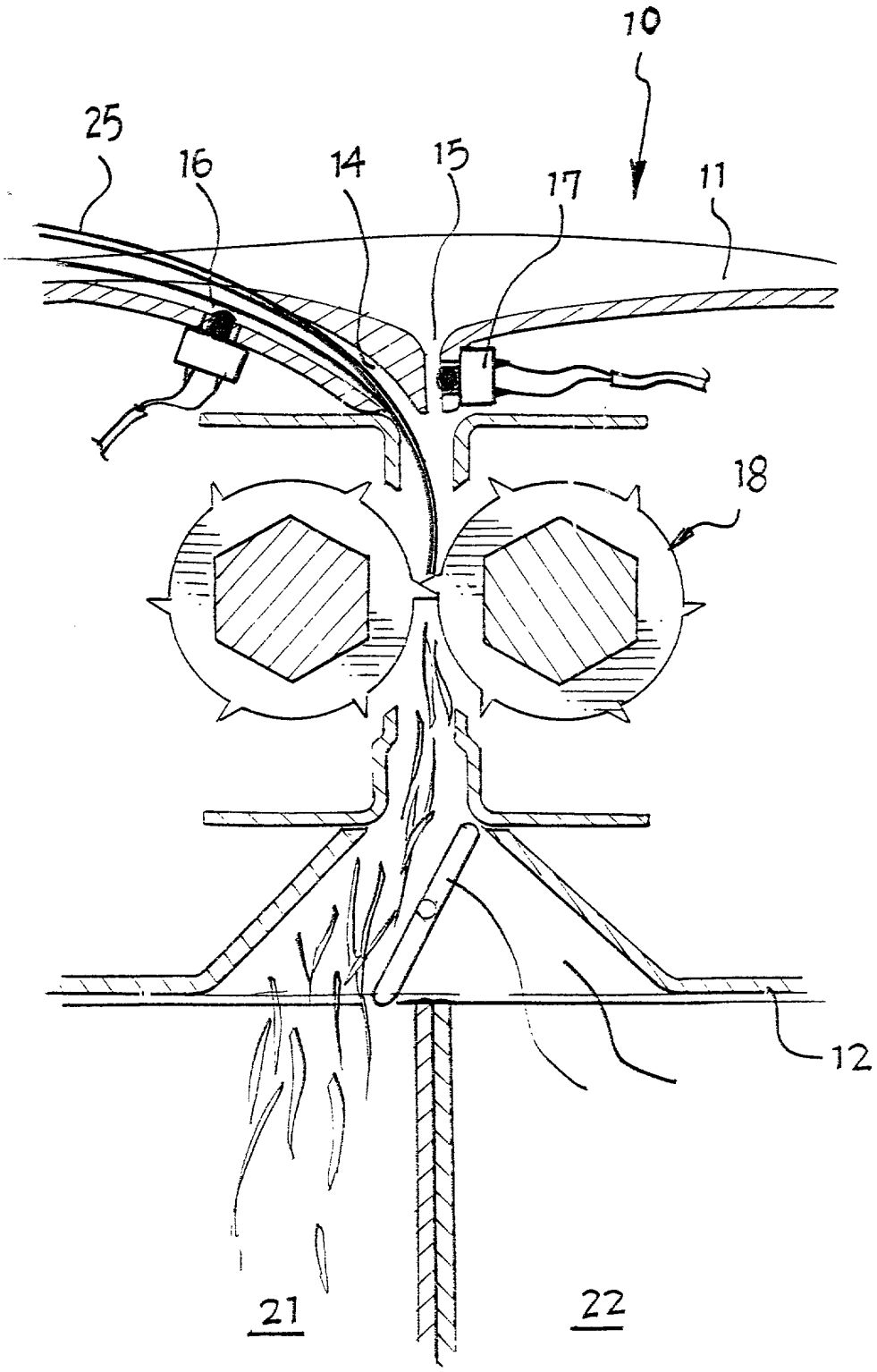

Fig. 2

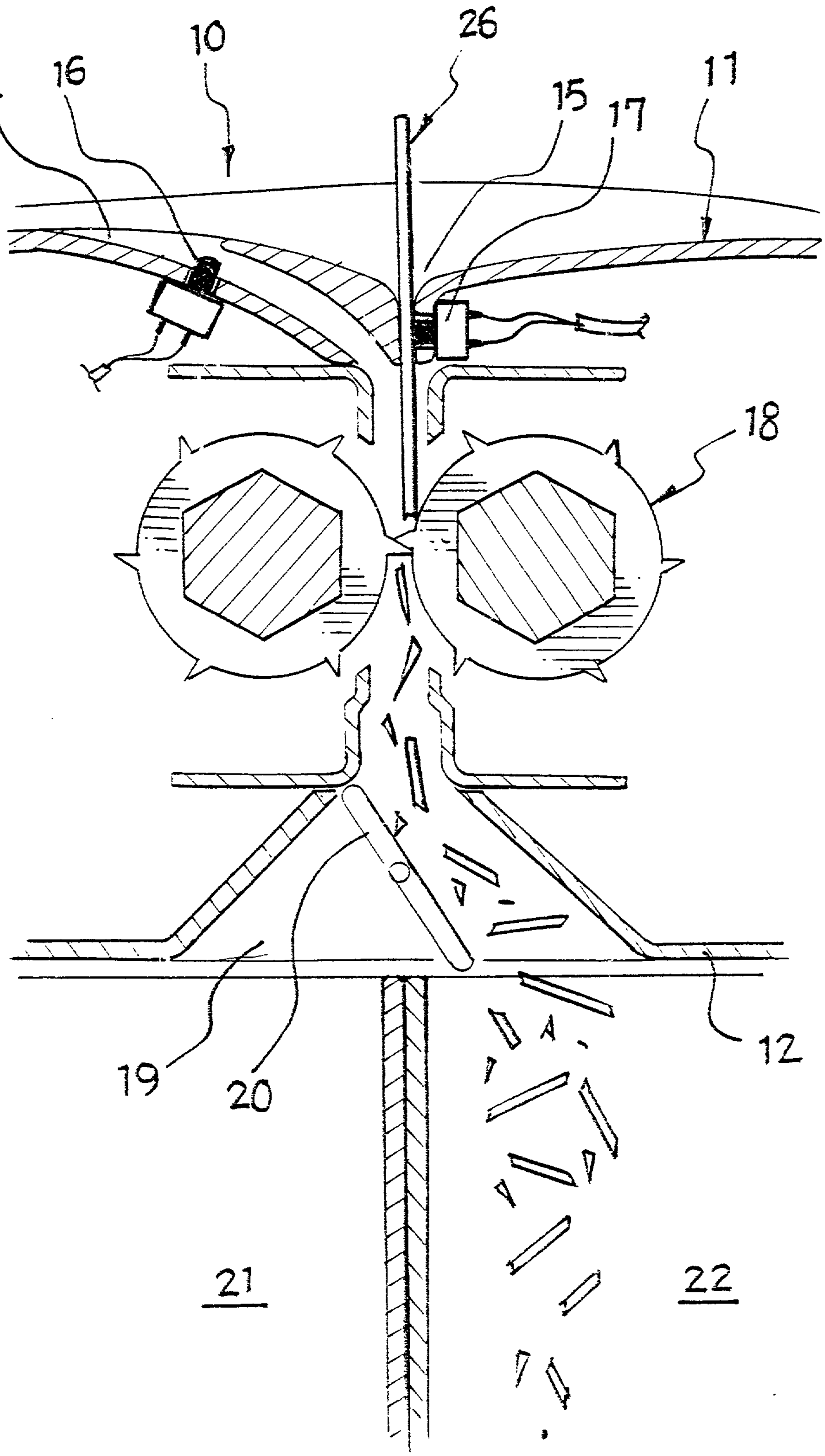

Fig. 3

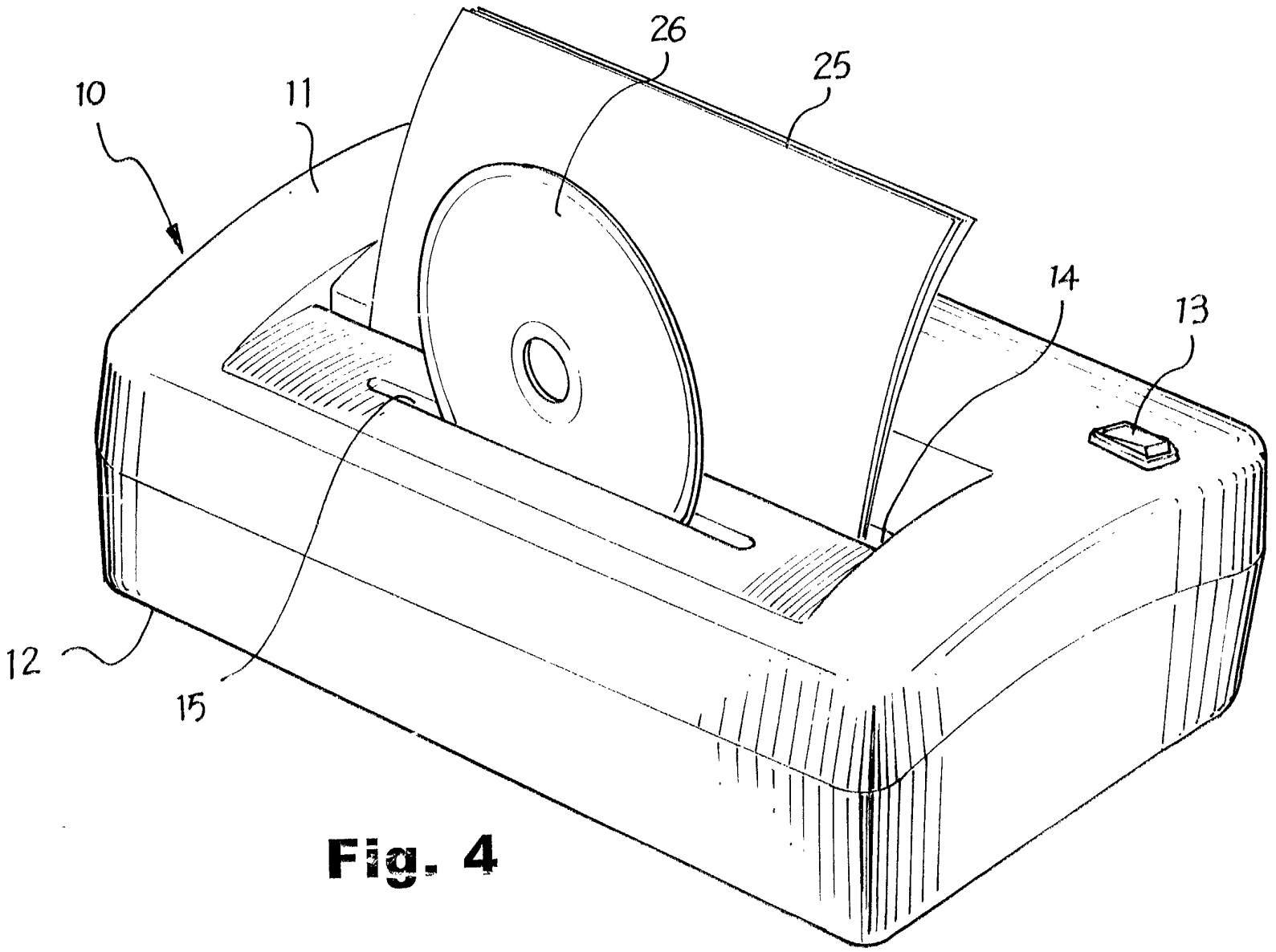

Fig. 4

COMBINED DECLARATION AND POWER OF ATTORNEY IN ORIGINAL APPLICATION

ATTORNEY DOCKET DED/3093/20

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name.

I believe I am an original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled

Dual-Funtional Medium Shredding Machine Structure

the specification of which (check one)

_X_ is attached hereto.

____ was filed on _____ as Application Serial No. _____
and with amendments through _____.
(if applicable)

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claims.

I acknowledge the duty to disclose information which may be material to the examination of this application in accordance with Title 37, Code of Federal Regulations, §1.56.

I hereby claim foreign priority benefits under Title 35, United States Code, §119 of any foreign application(s) for patent or inventor's certificate listed below and have also identified below any foreign application for patent or inventor's certificate having a filing date before that of the application on which priority is claimed.

EARLIEST FOREIGN APPLICATION(S), IF ANY, FILED WITHIN 12 MONTHS PRIOR TO THIS APPLICATION

Country	Application No.	Date of Filing (day,month,yr.)	Date of Issue (day,month,yr.)	Priority Claimed YES	NO

ALL FOREIGN APPLICATIONS, IF ANY, FILED MORE THAN 12 MONTHS PRIOR TO THIS APPLICATION

POWER OF ATTORNEY: As a named inventor, I hereby appoint the following attorneys to prosecute this application and transact all business in the United States patent and Trademark Office in connection herewith:
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I hereby declare that all statements made herein of my own knowledge are true and all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment or both, under §1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

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